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ABSTRACT

This one semester, ecology-oriented, eleventh or twelfth grade elective course exposes students to the problems of environmental degradation and makes them aware of man's attempts to remedy crisis situations. The curriculum guide is divided into three major topics, each comprised of several subtopics which include content, objectives, and suggested materials. Topic I, "Man's Record on the Earth," examines the sub-topics of Topic II, "The Population Problem," studies the distribution of the world's people, dynamics of population growth, and the effects of population patterns on the environment. Topic III, "Economics, Politics, and Conservation," explores the utilization and degradation of our natural resources. (Author/DE)

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THE WORLD OF MAN

A CURRICULUM Guide

RICHARD PETERS, ED.D.

The World of Man is a one semester, ecology-oriented, eleventh or twelfth grade, elective course, developed for the purpose of exposing students to the problems of environmental degradation and to make them aware of man's attempts to remedy crisis situations.

Each student will be exposed to the totality of the degradation problem; namely, man's relationship(s) to his natural and social ecosystems.

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STATEMENT OF OBJECTIVES

As a result of studying The World of Man, each student will:

1. perceive the interrelationship(s) between the social studies and science aspects of the course.
2. interact with other members of the class (e.g., classroom discussions, projects, reports).
3. demonstrate his/her affective qualities (e.g., attitudes, behavior, insights, and values) during the course-of-study.
4. demonstrate his/her understanding of the general ecological situation in the United States and throughout the world (e.g., civics and current events quizzes, discussions, readings).
5. demonstrate his/her concern for the ecological crisis (e.g., writings, discussions, projects, community action).
6. demonstrate his/her cognitive qualities and understandings (e.g., written examinations, discussions, projects).
7. develop a term project that brings into play both affective and cognitive properties gained from the course.

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THE WORLD OF MAN

Topic I. MAN's RECORD ON THE EARTH

1. The Uncertain Past
2. Man and Agriculture
3. Civilization

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
MAN's RECORD ON THE EARTH	1. The Uncertain Past	1_1 Evidence of Man (anthropology) . Ape Man . Java Man . Peking Man . Neanderthal Man . Cro-Magnon Man	To introduce students to the development of MAN throughout the pre-historic ages	The Social Introduction To Environment (handout) Man's Record on Earth (handout)
		1_2 The Emergence of Man (anthropology) the development of homo sapiens during the past one million years	To introduce students to different concepts of the development of MAN as a species.	The Emergence of Man (handout) The Emergence of Man (Harper-Row) Rocks and the Record (McGraw-Hill films) Fossils (Encyclopaedia Britannica) History of Man (Milliken)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS

Dinosaurs
(McGraw-Hill films)

Prehistoric Man
(Milliken)

Golden Nature Guides
- Fossils
- Rocks and Minerals

Fossil Man
(Bantam Books)

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Suggested Activities:

1. Make a fossil collection and display it to the class.
2. Classify rocks as igneous, metamorphic or sedimentary and make a rock collection - display to the class.
3. Make a map of the world and label pre-historic population centers. Show routes of migration.
4. Select a pre-historic tribe and develop a class report. Include pictures of the people, discuss their ways-of-life, and trace their development.
5. Make plastic models of the various types of pre-historic dinosaures and animals.

THE SOCIAL INTRODUCTION TO ENVIRONMENT

The history of life on Earth has been a history of interaction between living things and their surroundings. To a great extent, the physical form and habits of the Earth's vegetation and its animal life have been molded by the environmental surroundings.

Beginning in the 20th Century, MAN acquired the ability and power to alter the nature of his world.

Since the early 1900s, MAN has increased his assault upon the Earth's natural, finite resources; air, water, minerals and vegetation. Thus, today MAN faces the problem of universal contamination of the environment.

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MAN's RECORD ON EARTH

CRO-MAGNON MAN (12,000 - 40,000 years ago)

Location: EUROPE

Accomplishments:
- tool making
- tool using
- fire making
- fire using

NEANDERTHAL MAN (30,000 - 120,000 years ago)

Location: ASIA/AFRICA

Accomplishments:
- tool making
- tool using
- fire making
- fire using

PEKING MAN (375,000 - 400,000 years ago)

Location: CHINA

Accomplishments:
- tool making
- tool using
- fire making
- fire using

JAVA MAN (500,000 - 700,000 years ago)

Location: INDONESIA

Accomplishments:
- tool making
- tool using

APE MAN (1,000,000 - 1,800,000 years ago)

Location: AFRICA

Accomplishments:
- tool making
- tool using

RACE: A human population whose members breed among themselves and have become distinct from other populations by sharing several inherited physical and social traits.

PALEOLITHIC AGE (OLD STONE AGE)

1. Lower Paleolithic Age (150,000 - 2,000,000 years ago)
   - nomatic hunters
   - pebble tools (hand ax)
2. Middle Paleolithic Age (40,000 - 150,000 years ago)
   - nomatic hunters
   - use of fire
   - construction of shelters
   - burial of the dead
3. Upper Paleolithic Age (10,000 - 40,000 years ago)
   - nomatic hunters
   - tool making and tool using
   - religious rituals
   - artistic creations

MESOLITHIC AGE (MIDDLE STONE AGE) (8,000 - 10,000 years ago)

1. Climatic change(s) - from the Ice Age coverage to lush vegetation.
2. MAN begins to effect the environment: a. domestication of animals
   b. farming
   c. development of villages
3. Development and use of sophisticated weapons (bow-and-arrow)

NEOLITHIC AGE (NEW STONE AGE) (5,000 - 8,000 years ago)

1. Pottery was made and used.
2. Agriculture and irrigation of the land.
3. Growth of larger villages and towns.
4. Architecture

BRONZE AGE (1,000 - 5,000 years ago)

1. Creation of metal tools and weapons.
2. Development of urban communities.
3. Establishment of formal governmental systems: from tribal law(s) to organized - systematic rules and regulations.
4. Refinement of agricultural practices.

IRON AGE (1,000 to 2,000 years ago to today)

1. Creation of tools and weapons.
2. Advancement of urban living, government and politics, economic systems, harvesting of food supplies, utilization of natural and man-made resources.

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THE EMERGENCE OF MAN

About two million years ago (2,000,000), our human ancestors encountered a dismal future. They had to become either better killers than the carnivores or better grazers than the herbivores. At first, man-like apes were no match for the animals of the flesh-eating world. Down on the ground, these man-like creatures could prey only on helpless young animals.

Nearly one million years ago (1,000,000), certain structural and social changes occurred in man.

1. Man's brain became more-complex.
2. Man's eyesight improved.
3. Efficient grasping hands were developed.
4. Man created social organizations (e.g., the family, clans)
5. Man's posture became more-upright. Thus, he could see over the tall savanna grasses and could run at faster speeds.
6. Man became a decision maker. He was more adept at making quick decisions and responding.
7. Man began to make and use both primitive and complex tools.
8. Development of hunting techniques.
9. Storage of food supplies.
10. Development of mating pair-bonds (male/female groupings)
11. Creation of the nucleus family unit (father, mother, children)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
MAN's RECORD ON THE EARTH	2. Man and Agriculture	2_1 The Environment: physical and social ecosystems (history - sociology) a. culture b. environment	To introduce students to MAN- the culture builder and MAN- the manipulator of the environment	The Environment (handout)
		2_2 Community (sociology) a. villages b. towns c. cities	To develop student awareness of the sociological growth of urban areas	Down on the Farm: America's Agricultural Revolution (Hearst Metrotone News Film)
		2_3 Societies (government-sociology) a, folkways b. mores c. institutions	To develop student understanding(s) of social orders - the need to organize people to accomplish tasks and to create institutions to provide services and meet needs	Men, Machines and A Bountiful Harvest (Oxford Films) Growth of Farming in America: 1865-1900 (Coronet Films)
		2_4 Land Use (economics-geography-history) a. France b. England c. Spain	To develop student perceptions of nationalistic policies regarding land use	French Explorations in the New World (Coronet Films, English and Dutch Colonization in the New World (Coronet Films)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
		25 Industrial Revolution (history-economics-sociology) a. England-18th Century b. Europe/North America - 19th Century c. Old Immigration d. New Immigration	To enrich student understarding(s) of the historic debut of the Industrial Revolution - and the following events.	The Industrial Revolution (Center for Cassette Studies) Industrial Growth (Educational Activities) Beginnings and Growth of Industrial America (Coronet Films) Inventions in America's Growth (Coronet Films) Immigration in America's History (Coronet Films) Meaning of the Industrial Revolution (Coronet Films) The Rise of the Industrial Cities (Multi-Media Productions) Immigrants in American Life (Houghton Mifflin)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS

The Workingman in American Life

(Houghton Mifflin)

American Inventions: Keys to Mass Production

(Multi-Media Productions)

Suggested Activities:

1. Study types of agricultural practices in different nations.
2. What are some of the agricultural crops grown in the local area? Is the economy of the area dependent upon farming? If so, in what ways?
3. Investigate some inventions related to the field of agriculture. How did each invention effect change(s) in the farming process?
4. Review the history of the growth of American industry. What were some of the inventions that helped industry develop in America?
5. Select an inventor and develop a class report. How did this individual help the development and growth of the American industrial system?
6. Develop a report on immigration to America (1880-1920).
7. Select a national group that migrated to America. Develop a class report.

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THE ENVIRONMENT

The physical environment is composed of the natural influences such as climate, topography and soil.

The social environment refers to MAN's fellow beings and his relationship(s) with them.

As a society matures, the distinction(s) between the physical and social environments blurs. MAN's physical environment comes to be more-and-more effected by his technology and his social organization. As his numbers multiply and his social structure becomes more complex, the impact of his social environment on his physical environment is strong.

MAN has a great advantage over the animals; that is, his ability to develop intricate speech. With language, MAN can communicate with his fellow humans and record his cultural advances. Language enables MAN to share his experiences and to pass along his discoveries to others.

Culture: the knowledge, beliefs and customs of MAN which have been accumulating since he first appeared on Earth. Everyone has culture - due to exposure and continual interaction. A child begins, at birth, to learn the culture of the people with whom he/she lives.

Community: an aggregate of persons living in the same area and having some cultural, social and political contacts with one another.

1. village: In hunting societies (nomatic), communities are created on temporary bases - due to the uncertainty of a constant food supply.

2. town: With the advent of agriculture (during the Mesolithic Age), there resulted the development of larger and more stable communities.

3. cities: With the growth of population in key geographical areas, villages and towns expanded in size and offered additional services. These communities developed into urban centers. Workers from surrounding rural areas migrated to these centers - to sell both their goods and skills.

4000 BC - the UBAID phase of urbanization in Mesopotamia.

3200 BC - the development and growth of the Sumerian city state.

North America - Nearly 30,000 years ago, MAN migrated from northeastern Asia to the American continent ... the New World.

Some of the early civilizations were:

Aztecs (Mexico)
Incas (Central-South America)
Mayas (Central America)
Toltecs (Mexico)

About 8,000 BC - there occurred cultural, transitional changes in the New World.

1. from a predominantly hunting (nomatic) way-of-life ...

2. toward economies better suited to the changing environment(s) of the Americas. The development of traditions: big game, hunting, desert and woodland types of life.

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SOCIETIES

Every society has a number of basic or central needs which must be met:

1. caring for the young.
2. providing its members with food.
3. protecting members from attack.
4. developing the self concept of the individual.

Distinct folkways (ways of living and behaving which have gradually developed in a given society) and mores (the beliefs, attitudes and types of behavior of a group considered important for the well-being and survival of the group) develop in different societies around these basic or central needs.

Social institutions are the several organized ways (eg, family, church, school, government) by which societies attempt to meet the important needs of their members and to fulfill their principal tasks.

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LAND USE

With abundance, there is a general disregard for the natural resources which results in a lack of resource and land management.

North America: France: Little colonization of the land, the development of trading centers and military settlements, and the exploitation of the human and natural resources in a given area.

England: Colonization of the land and development of settlements by private investment groups, development of trading and military centers, exploitation of natural resources, and cultivation of the land.

Spain: Colonization for military purposes (St. Augustine, Florida) and the exploitation of natural and human resources (eg, mining and slavery).

Early industries were adapted to the physical environment(s). Trading and industrial centers developed close to supplies of materials and power. With inventions such as the steam engine, natural resources and power could be provided to industries - with lesser concern being given to immediate location near the source(s) of supply. Economic and industrial centers were developed in new geographic areas. THE ENVIRONMENT WAS GRADUALLY CHANGED TO SUIT MAN.

While nature tends toward stability - MAN tends to upset the balance-

INDUSTRIAL REVOLUTION

The utilization of machines to assist MAN's labor and the growth of the factory system.

The Industrial Revolution began in England in the mid-1700s and spread to the continents of Europe and North America during the late-1700s and early-1800s.

With the growth of the factory system, individuals began to migrate from rural areas, first to factory complexes, and later to urban centers. Individuals from foreign nations also moved to the new industrial areas of America.

Starting in the 1830s, the urban population of the United States was swollen by European immigrants.

OLD IMMIGRATION (1800s - northern and western Europe)

NEW IMMIGRATION (late 1800s - early 1900s - southern and eastern Europe)

1860-1890: 13,500,000 immigrants to the United States from Europe.

1900-1930: 19,000,000 immigrants to the United States from Europe.

The immigrants provided America's industrial revolution movement with cheap labor and the bodies needed to do the physical work; to settle and to populate the frontier regions of the expanding nation.

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
MAN's RECORD ON THE EARTH	3. Civilization	3_1 Growth of Urban Centers (history-sociology) a. center city b. transition zone c. residential zone d. suburban zone e. rural zone	To develop student understanding of the concentric circles theory of urban development	Problems of Cities (N.Y. Times filmstrip) Megalopolis (handout)
		3_2 Urban Problems (economics-government-sociology) a. housing b. education c. racial mixing d. poverty e. crime f. services g. business	To develop student perceptions of the many economic-moral-political-social issues and problems facing today's urban complexes and possible solutions to the problems.	An Overview of the Problem (handout) Slums Are Not New To Our Nation (handout) Growing Crisis for the Cities (N.Y. Times filmstrip) The American Urbanization (Pathescope Educational films) .Megalopolis East

12000

TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
				. Megalopolis West Urban Life (Singer) Problems of American Society (Washington Square Press) . The City as a Community . Riots . Poverty and the Poor . Crime and Juvenile Delinquency . The Negro in the City

22000

Suggested Activities:

1. Select an urban center problem and develop a class report.
2. Using graphic media devices (eg, motion picture camera, video tape equipment, cassette recorder(s)), develop a graphic study of a community problem or a physical/social characteristic.
3. Do an in-depth study of megalopolis.
4. Interview people who live in a slum area and record their comments on tape.
5. Draw a map of a city area and shade in the various parts; inner city, slums, residential, business, open space, etc.

MEGALOPOLIS

In 1975, megalopolis refers to either the northeastern section of the United States which extends from Washington, DC, to Boston, Massachusetts (BO-WASH) or to the continuous city that runs from San Diego to San Francisco, California (SAN-SAN) in the west.

In history, megalopolis was an ancient Greek city. Today, megalopolis refers to one continuous urbanized area - with a high population density; many people in a small geographical area.

Within megalopolis - EAST (BO-WASH), one will find a great diversity of economic, political and social conditions.

1. The Wall Street section of New York City - the nation's money market.
2. The seat of our federal governmental system in Washington, DC.
3. The Madison Avenue media and advertising establishments. These New York City organizations have great influence upon the ways you act and think.
4. Many of the nation's leading institutions of higher education, research and medical science.
5. Dense population resulting in slums, modern living accommodations, traffic congestions, mass rapid transit systems, highly skilled technical occupations, high unemployment and air-water pollution.

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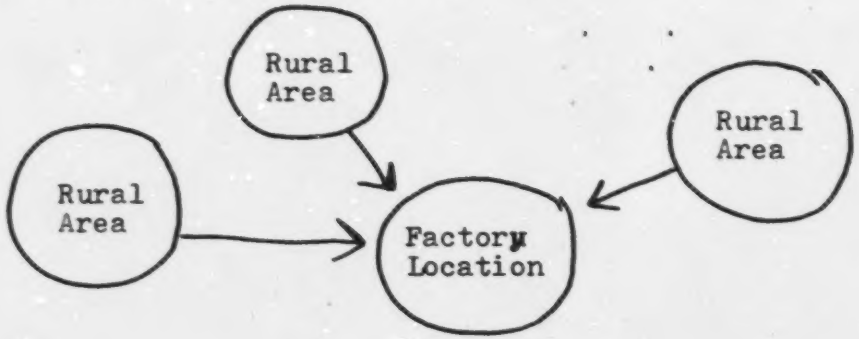
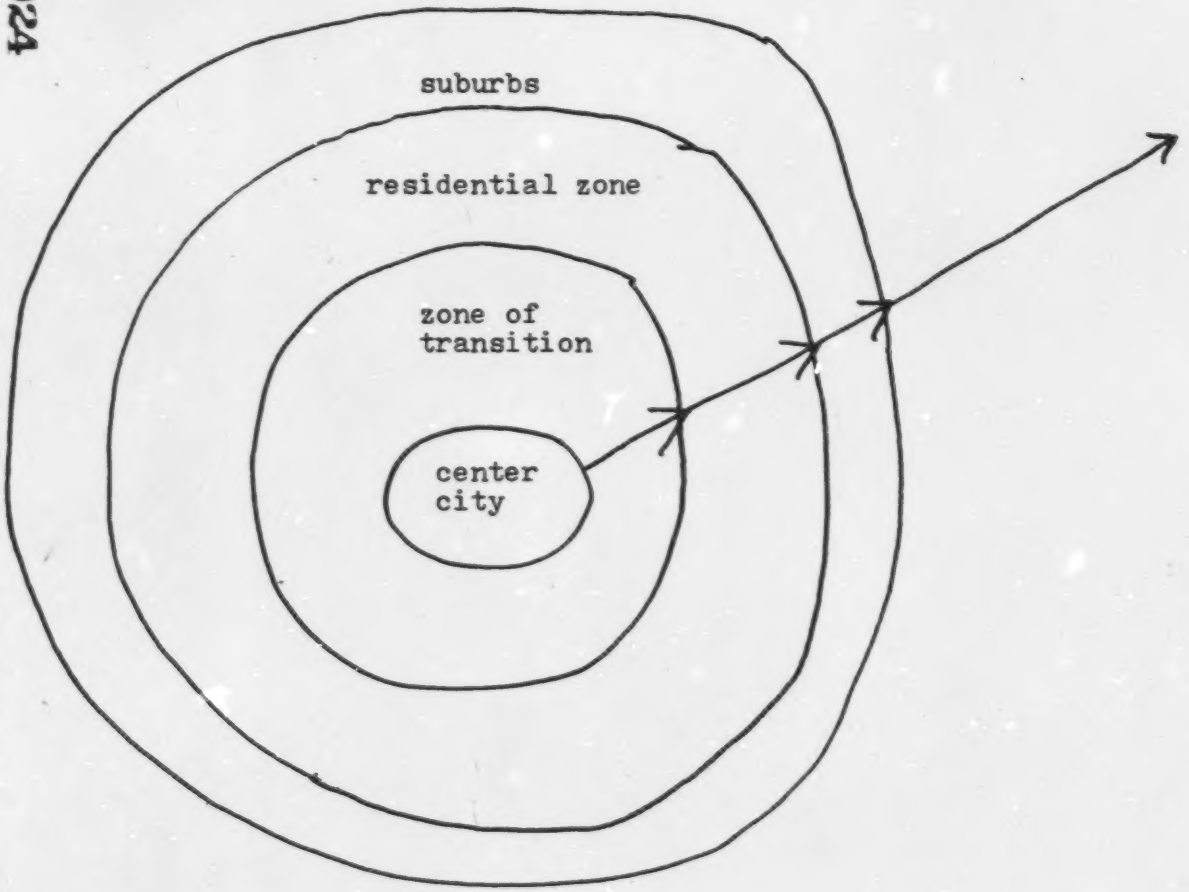
GROWTH OF URBAN AREAS

1801 - 1900



1901 - 2000



rural areas

center city: the core - the original city or urban center.

zone of transition: from slums to low cost housing and businesses.

residential zone: few-if any-businesses; middle class to upper class housing and recreational facilities.

suburbs: blending of urban living and rural settings; middle and upper class homes; relocation of space-age industries and technology.

rural: farming communities, open spaces and recreational facilities; middle and upper class movement into these areas.

AN OVERVIEW OF THE PROBLEM

Each metropolitan center has its own list of crises - but the list reads much the same for Boston, Washington,DC, Dallas or Los Angeles.

1. Spreading slims.
2. Polluted air and water.
3. Congested streets.
4. Inadequate parks and recreational facilities.
5. High crime rate.
6. High unemployment.
7. Crowded schools.
8. Racial problems.
9. Soaring costs of services.
10. Insufficient revenues to support needed services.
11. Crowded classrooms.

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SLUMS ARE NOT NEW TO OUR NATION

Slums have existed in every society. No city is without them. Slums exist in rural areas as well as in densely populated areas.

A slum is a geographical area in which you will find run-down housing, inadequate sanitation facilities, poor medical conditions and services and inadequate means of transportation.

Philadelphia, Pennsylvania, is one of the oldest cities planned and built in the United States. Even with careful planning and design, the city cannot escape the slum condition. The ghetto is conceived, nurished and blossems into a reality. Years have passed since cities like Philadelphia were built still there exists in these urban areas poverty, inadequate educational facilities and an entrapment that will not let the inhabitants set themselves free from their surroundings. The cost in dollars and cents and in wasted human lives is staggering.

THE WORLD OF MAN

Topic II. The Population Problem

1. Distribution of the World's People
2. The Dynamics of Population Growth
3. The Effects of Population Patterns on the Environment

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
THE POPULATION PROBLEM	1. Distribution of the World's Population	1₁ World Population Increases: 1900-2000 (geography and history) a. Europe b. North America c. Oceania d. Latin America e. Asia f. Africa	To introduce students to the history of world-wide population increase(s)	World Population Map (handout) The Problem Is Life (United Nations film)
		1₂ World's Largest Urban Areas (economics-geography-history) a. Tokyo b. New York c. London d. Paris e. Shanghai f. Buenos Aires g. Moscow h. Calcutta i. Cairo	To introduce students to the world's largest urban complexes - a basis upon which to compare population centers among have-have not nations	A Geography of Population and Settlement (Brown Company Publishers) Our World Neighbors (Educational Development Corp.) . Africa . Japan . India . Mexico . Asia/Pacific . USSR

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Suggested Activities:

1. Make a map of the world and indicate population centers in 1700, 1750, 1800, 1850, 1900 and 1950.
2. Select one major world city and develop a class report.
3. Make a map of the United States and indicate the areas of greatest population.
4. Investigate national policies which promote either birth control or a baby boom. Develop a class report.

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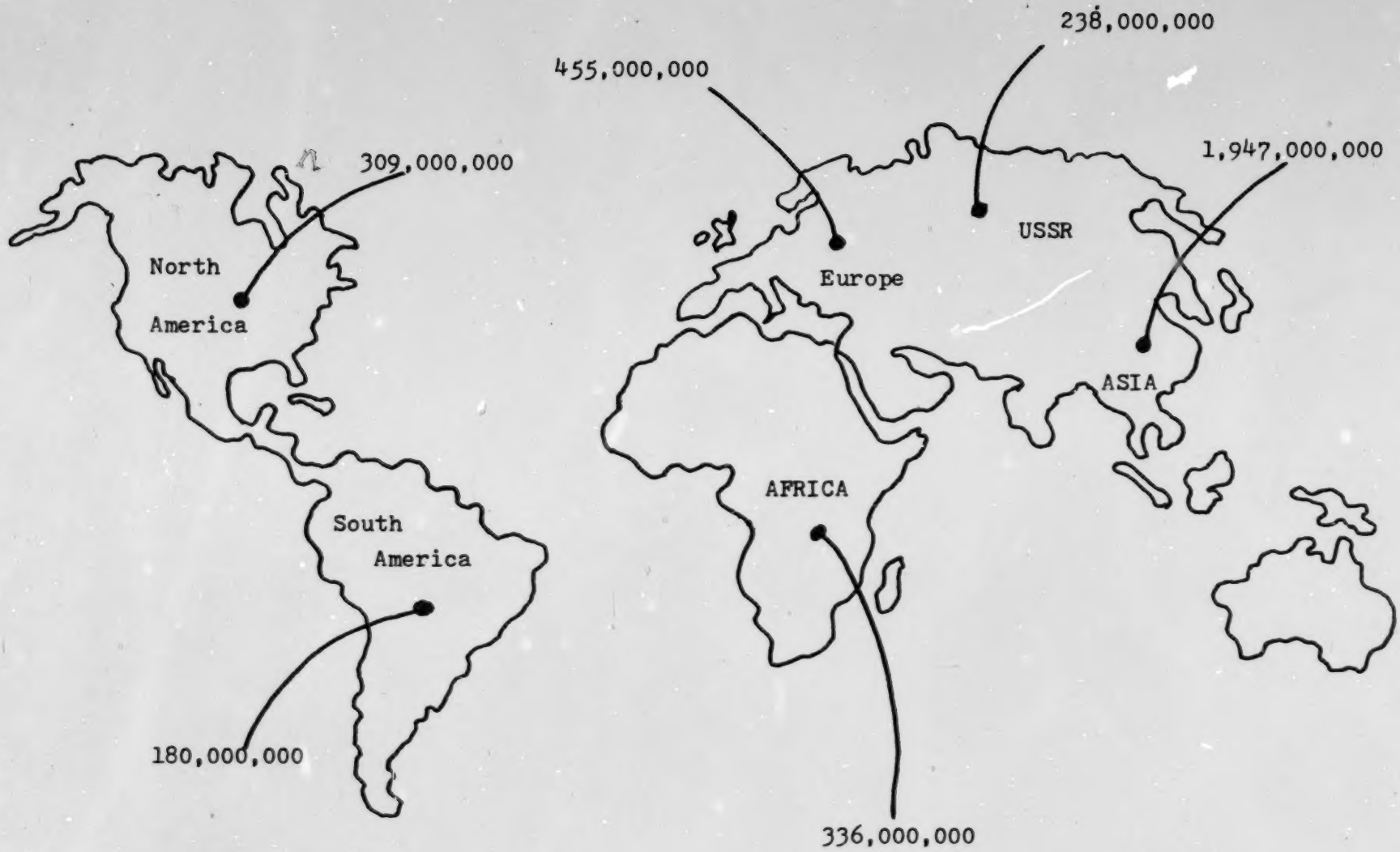

Oceania - 18,500,000

INCREASES IN POPULATION PER QUARTER CENTURY

PERIOD	EUROPE	NORTH AMERICA	OCEANIA	LATIN AMERICA	ASIA	AFRICA	WORLD WIDE
1900-1925	19%	56%	57%	57%	19%	22%	23%
1925-1950	14%	33%	36%	65%	35%	35%	31%
1950-1975	31%	43%	59%	86%	60%	52%	53%
1975-2000	26%	30%	40%	95%	75%	71%	64%

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A far greater increase in population is evident in the 'underdeveloped' nations. Why ? What is the Zero Population movement ?

WORLD's LARGEST URBAN AREAS

(based upon 1970 data)

CITY	NATION	POPULATION
Tokyo	Japan	14,770,727
New York	United States	14,114,927
London	England	7,948,270
Paris	France	7,369,387
Shanghi	China	6,977,000
Buenos Aires	Argentina	6,762,629
Moscow	Soviet Union	6,567,000
Calcutta	India	4,703,398
Cairo	Egypt	4,196,998

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
THE POPULATION PROBLEM	2. The Dynamics of Population Growth	2 1 Malthusian Theory of Population Growth (economics-history-sociology)	To develop student familiarity with one theory of population growth.	
		2 2 Population: Causes and Effects (economics-history-government-sociology)	To develop student awareness of the population explosion - an increasing birth rate and a declining death rate.	United States Population Statistics (handout) Ecology and Environmental Studies (Singer) . Man in the Biosphere . Population Man's Earth Home (Encyclopaedia Britannica) Living on Man's Earth (Encyclopaedia Britannica) Problems of American Society (Washington Square Press)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS

. Poverty and the Poor
. The Slums

Immigrants in American Life
(Houghton Mifflin)

The American Immigrants
(Multi-Media Productions)
. Europeans
. Irish
. Germans
. Slovaks

Immigration in American History
(Coronet Films)

A Nation of Immigrants
(Harper and Row)

Suggested Activities:

1. Apply the Malthusian theory to a selected nation. Does it apply ? How ? Why ? Why not ?
2. As MAN extends the life span of his species, what problems does this create for a society ?
3. How did immigrants from Europe help to settle the American West ? Develop a class report.
4. What were some of the reasons why immigrants came to America ? Were their dreams realized ? If yes - How ? If not - Why not ?

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MALTHUSIAN THEORY OF POPULATION GROWTH

In 1798, Sir Thomas Malthus proposed a theory of population growth that was based upon the idea that the human population in a given area tends to grow faster than the available food supply.

1. The human population tends to double every twenty-five (25) years in a geometric progression of population growth: 2-4-8-16-32-64-128-256 ... .

2. The food supply in a given area tends to increase in an arithmetic progression: 2-4-6-8-10-12-14-16-18 ... .

3. Population tends to increase to as high a figure as can be supported.

Population can be controlled by:

1. natural disasters: famine, disease, floods, earthquakes.
2. man-made disasters: war, geniside, pollution.
3. social customs and mores: celibacy, late marriage, sexual restraint.

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POPULATION

History shows that a country which has a relatively dense population and is becoming more-and-more overcrowded is likely to venture into war in order to alleviate its shortages of land and food and to reduce its population surplus.

OLD STONE AGE. There existed a small human population due to the lack of sufficient food supplies, disease and wildlife.

With the coming of agriculture (during the Neolithic Age), the population of the Earth began to increase.

Up to 1650 - 10% increase in the population per 100 years (500,000,000)
1850 - 48% increase in the population per 100 years (1,200,000,000)
1960 - 140% increase in the population per 100 years (2,900,000,000)

Any population increase is due to the excess of births over deaths.

Some reasons for population increases:

1. scientific methods in agriculture.
2. industrial revolution - more goods and services.
3. discovery - settlement of the Americas, the use of raw materials, the development of markets and the use of land.
4. the extended life span of the average human - due to advances in methods of sanitation and in the field of medical research and services.

TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
THE POPULATION PROBLEM	3. The Effects of Population Patterns on the Environment	3.1 Effect of Population on the Environment (economics-government-history-sociology) a. greater goods and services b. more food c. more shelter d. increased water supplies	To develop student awareness of the demands MAN puts upon both the natural and social ecosystems- as his numbers increase.	1800-1960 Rural-Urban Population (handout) Social and Cultural Developments (Multi-Media Productions)
		a. internal improvements b. cheap western lands c. inventions: effects upon the land	To investigate Turner's safety valve theory of westward settlement	Emergence of Industrial America (Multi-Media Productions) The Turner Thesis (D.C. Heath)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
		3/2 United States Population (economics-sociology)	To develop student awareness of the distribution of the U.S. population.	United States Census Data
		a. national statistics: births-deaths-immigration-emigration		
		b. population growth by regions of the nation	To develop student understanding of the population explosion in the United States; increased births and declining deaths.	
			To develop student understanding of the Zero Population movement.	materials can be obtained from the Zero Population center in New York City

TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
		33 Megalopolis (economics-government-sociology) a. the phenomena of overlapping urban centers b. recommendations for the eccnomic, political and social reorganization of overlapping urban centers	To develop student awareness of the growth of large continuous urban centers in the U.S. and the problems that exist.	Megalopolis - Overlapping Urban Centers (handout) Problems of Cities (handout) Urban Life (Singer)
		34 Poverty (economics-government-history-sociology)	To effect student attitudes about the poor; to achieve student feedback regarding the plight of these people.	Problems of American Society (Washington Square Press) . The Traffic Jam . Air/Water Pollution . The City as a Community . The Slums . Poverty and the Poor . Riots . The Negro in the City . Crime and Juvenile Delinquency

Suggested Activities:

1. What steps are being taken in selected urban centers to meet human demands and problems in the year 2000 ?

2. Investigate Turner's safety valve thesis. How valid was his theory regarding the development of the American West ?

3. Investigate the economic, social and political problems faced by those who live in slums.

4. On a map of the United States locate Megalopolis-EAST and Megalopolis-WEST .

5. Using graphic media devices, document the natural and social aspects or characteristics of a given geographic area: village, town, city or suburb .

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EFFECTS OF POPULATION UPON THE ENVIRONMENT

With an increase in population, there is a need for:

1. increased goods and services.
2. increased supplies of food.
3. more shelter - both quantity and quality.
4. the necessity for more land - for more living space and growing space.
5. greater quantities of consumable water supplies.
6. greater numbers of recreational areas and facilities.

All of these human needs and demands require an affecting of both the natural and social environments within a given geographical area.

THE TURNER THESIS

In the mid- to late 1800s, Frederick Jackson Turner devised a 'safety valve' theory to explain population growth and westward expansion - in America.

According to the Turner thesis, the opening of the western territories of the United States provided Americans with new lands to explore, conquer and settle. For those Americans caught up in the slums of eastern cities, the west provided opportunities for new lands, new resources, new wealth and a new way-of-life. For those immigrants from foreign soils, the western lands provided the opportunity for a new start in a new land - but serious consideration had to be given to the risk of violent death.

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LAND POLICIES

In order to develop the United States into a self sufficient nation, there was a need to develop the country's domestic capabilities. From the time of the Founding Fathers, an emphasis was placed upon internal improvements. The face of the land was changed to suit MAN's needs and desires for growth. No longer did these people adapt to their surroundings. They began to change the natural ecosystem as they built roads and turnpikes, laid railroad tracks westward, strung telegraph wire, dug canals, cut timber, cleared the land and cultivated it.

Government land policies encouraged the settlement of the western lands. Beginning in 1785, with the Ordinance of 1785, land was sold at public auction. The selling price of land was two dollars an acre ($2.00). The land was sold in parcels of 160 acres for the sum of three hundred and twenty dollars ($320.00). To many of the poorer class people, $320.00 was an impossible sum of money to raise. Therefore, land speculators and other well-to-do individuals and groups bought up thousands of acres of western land for investment purposes. Many of the poor lived on the land as indentured servants or sharecroppers.

Inventions have effected the development and growth of national potential as well as the reshaping of the land. For example, prior to 1819, wooden plows were used to clear the land. With production of the cast iron plow (1819), it was possible to move greater amounts of earth and to move the farming territories westward. Therefore, a dramatic effect was made upon the natural environment.

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- 1793 - Eli Whitney's COTTON GIN
- 1819 - cast iron plow
- 1831 - Cyrus McCormick's REAPER

the concept of contour plowing

commercial farming

fencing in open range with barbed wire - resulting in range wars between cattlemen and farmers: sod busters.

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THE UNITED STATES IN 1969

- a BIRTH every 8½ seconds
- a DEATH every 16½ seconds
- an IMMIGRANT arriving every 71 seconds
- an EMIGRANT leaving every 23 minutes

POPULATION GROWTH BY NATIONAL REGIONS BY MILLIONS

New England	10	(1960)	11	(1970)	14½ (1985)
Middle Atlantic	34		37		46
South Atlantic	26		31		41
East North Central	36		40		49
East South Central	11		13		16
West North Central	15		16		19
West South Central	17		19		25
Mountain	7		8		12
Pacific	21		26		39

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TOWARD ZERO POPULATION

In the past ten years, the national birth rate has fallen by 2.4 per cent among those women in the child-bearing age range of 15 to 44 .

There are several factors which have contributed to the downward birth rate trend:

1. economic conditions have placed financial burdens on those individuals with large families. Once, it was financially wise to have large families; especially on farms where many hands were needed to do all the chores. Today, most of our population lives in urban areas and the need for large families - to do several different jobs - no longer exists.

2. a sharp increase in family planning clinics across the nation.

3. the 'pill' and other types of birth control contraceptives that can be obtained with a prescription or purchased over-the-counter in drug stores and supermarkets.

4. new popularity of male sterilization (vasectomy)

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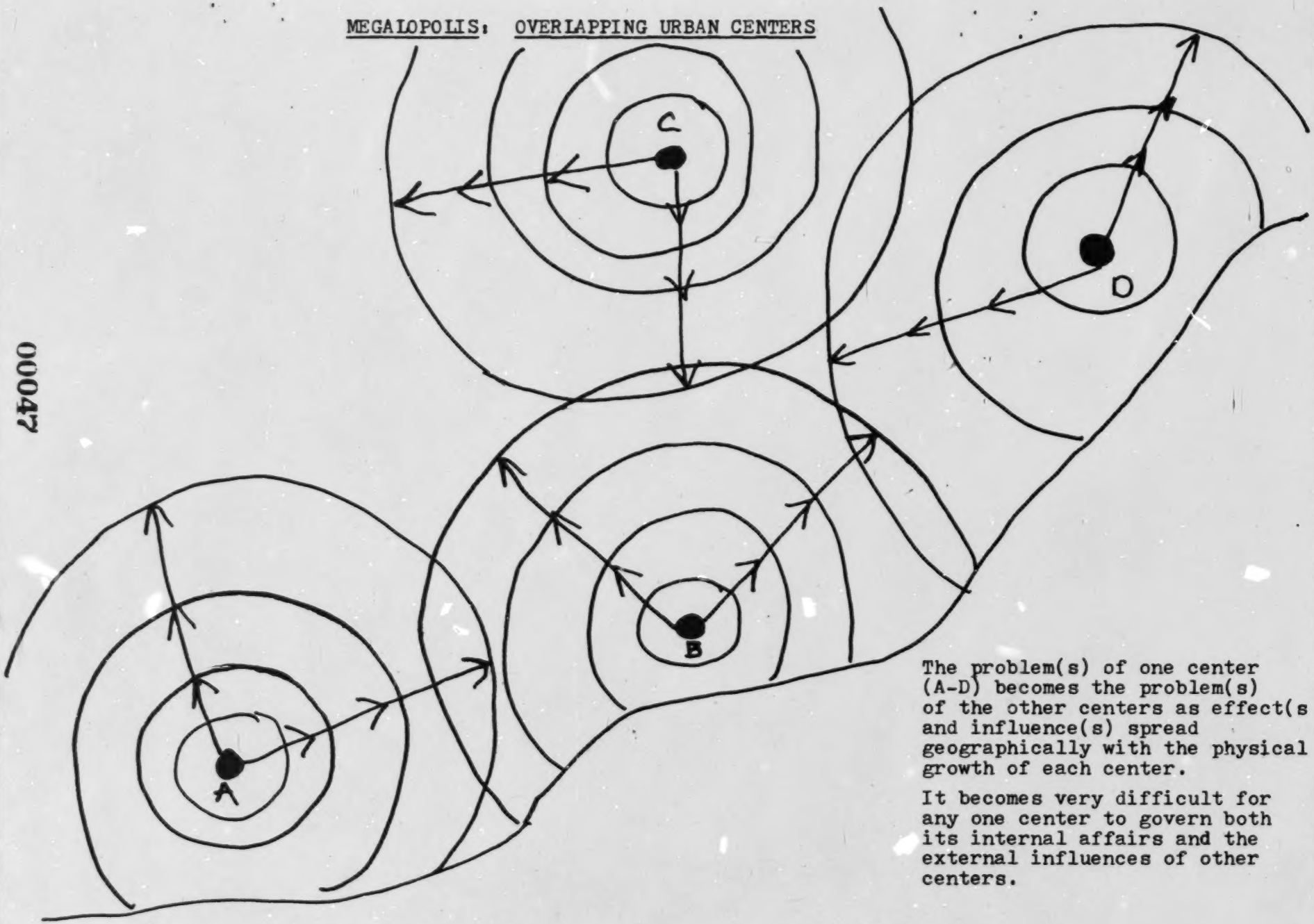
MEGALOPOLIS: OVERLAPPING URBAN CENTERS



The problem(s) of one center (A-D) becomes the problem(s) of the other centers as effect(s and influence(s) spread geographically with the physical growth of each center.

It becomes very difficult for any one center to govern both its internal affairs and the external influences of other centers.

There is a need for the creation of a new governmental structure in highly urbanized areas; the creation of governmental councils.

MEGALOPOLIS GOVERNMENTAL COUNCIL

The membership of the council would consist of representatives from each of the urban centers (A-D). These representatives would be elected by the voting citizenry within the respective centers.

The council would be responsible for handling matters which would involve most -if not all- centers; matters that directly or indirectly effect more than one center at any given time.

The council would establish service stations at strategic locations within the multi-center complex. Each station would provide basic services to its client center(s).

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POVERTY

How can poverty in today's affluent American society be explained ? There are those who argue that poverty exists because ...

1. there are some people who are too lazy to work. They want others to take care of them and their off-springs.
2. there exist both economic and historical forces beyond the power of man to control or regulate.
3. of job discrimination.
4. of poor schooling and training.

Irregardless of color, race, age, sex, geographical location and/or type of employment or lack of job opportunity, the one universal characteristic of all poor is that they do not receive sufficient income to rise above poverty.

There are several effects of poverty - both on individuals and sociaty:

1. children from poor families generally lack pride in themselves and develop attitudes of indifference.
2. children from poor families frequently drop out of school and are added to unemployment rolls.
3. many of the poor cannot help themselves; children live in broken homes, young female heads-of-families cannot work or earn a living, and senior citizens go without adequate medical care and proper housing - as well as an inadequate diet.

4. families live in overcrowded conditions, lack privacy, are exposed to disease and mental breakdowns, are exploited by high-pressure salesmen, and suffer from negative self images.

5. frustration and negativism lead to violent reactions - against individuals and against society. Crime in the streets increases, destruction of personal and public property increases and the cost of taxpayer support for police and firefighting services increases.

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THE WORLD OF MAN

Topic III. Economics, Politics and Conservation

1. Utilizing Natural Resources

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
ECONOMICS, POLITICS and CONSERVATION	1. Utilizing Natural Resources	1_1 Erosion (economics-geography-geology-history)	To develop student awareness of the damage MAN has caused to the land	
		1_2 Our National Resources (economics-geography-geology-history-sociology) a. forests b. minerals c. water	To develop student awareness and understanding of the need to conserve resources	Pollution Is No New Problem (handout) The Poisoned Environment (handout)
		1_3 Garbage: MAN's Invention (biology-sociology)	To develop student awareness of the causes and effects of MAN's pollution of the EARTH	Air Pollution (handout) Water Pollution (handout) Air and Water Pollution (handout) Metals from the Earth

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
				America's Wonderland: The National Parks (National Geographic Society)
				Prosperity Equals Pollution (Multi-Media Productions)
				The Automobile: Beyond Air Pollution (Multi-Media Productions)
				A Town That Washes Its Water (Hearst Metrotone News)
				Resources (Oxford Films)
				What Is Air Pollution ? (Multi-Media Productions)
				What Is Pollution ? (Multi-Media Productions)
				Clean Town, USA (Hearst Metrotone News)
				Future Shock (Metromedia Films)

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TOPIC	SUB-TOPIC	CONTENT	OBJECTIVES	MATERIALS
				The Great Sea Farm (Motorola Films) Conservation of Today's America (Singer) Conserving Our Natural Resources (Encyclopaedia Britannica) Natural Resources and You (Encyclopaedia Britannica) Environmental Studies Series (Centron Educational Films) . The River Must Not Die ! . The Land and the Soil . Solid Wastes . Air Pollution . Noise Air and Water Pollution (Washington Square Press) ECO-CRISIS: Our Environmental Ills and How We Can Cure Them (Perma-Bound Books) ECOTHERAPY: Rx For A Healthy Environment (Perma-Bound Books)

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Suggested Activities:

1. Draw a map of the United States and locate mineral deposits on it.

2. Select a natural resource and develop a class report. Explain the importance and use(s) of the resource.

3. Investigate methods of pollution clean-up and conservation of natural and man-made resources. Develop a class report.

4. Investigate pollution problems in the community. Conduct a graphic study of your community and make a report to the class.

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EROSION

In nature, soil erosion generally takes place very slowly. This process is referred to as normal erosion.

When plowing up the soil for the purpose of raising crops, MAN has speeded up this process; the process of induced erosion.

Man's use of the soil has not only caused it to erode at a faster rate - but has made it less productive. By growing crops, year-after-year on the same piece of land, man has removed both the mineral and organic contents from the soil. Therefore, the soil becomes less fertile and changes take place in its chemical make-up and structure.

AREAS OF THE U.S. EFFECTED BY MAN

- dry lands
- humid lands
- mountain lands
- polar lands
- semiarid lands
- tropical lands

OUR NATIONAL RESOURCES

FORESTS

In 1975, lumber is in great demand. The nation's forests are still a vitally important natural resource.

Trees become depleted IF a program of reforestation is not undertaken. Reforestation is the process of tree farming; that is, replacing each tree cut with young trees (saplings).

MINERALS

This nation possesses fluid and solid fuels, ferrous and non-ferrous metals, and non-metals other than fuel.

Mineral resources are subject to depletion; of being used and not replaced. Coal is our most plentiful mineral resource. Petroleum is our nation's most important fuel. The major oil producing areas of the United States are found along the South Atlantic coast, the Rockie Mountain area, and off the coast of California as well as the Gulf of Mexico.

Among the important minerals used by American industry are bauxite, copper, gold, lead, manganese, platinum, silver, and tungsten.

WATER

Water is probably the most important natural resource. For without water, MAN can not long survive on the Earth. The average American home requires

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about 200 gallons of water a day. As the population grows, the demand for more-usable water increases.

Water is a renewable resource. Rainfall in the United States is about thirty inches per year - but it is not equally distributed over the entire land.

MAN is beginning to look to salt bodies of water for future supplies of consumable water. Salt water can be made safe for human consumption by the process of desalinization; that is, removing the salt content from the water through a series of filtering processes. But, if MAN continues to pollute the oceans and seas of the world, then a potential source of needed water will be destroyed.

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POLLUTION IF NO NEW PROBLEM

As defined, to pollute means to make unclean or impure; to defile.

In the beginning, MAN was a creature of the Earth; dependent upon nature for survival. With the passing of the ages, MAN became more sophisticated and, in turn, a manipulator of his world.

With his increase in numbers, MAN began to place greater demands upon the use of the Earth's virgin resources. Timber was cut, land was plowed, and eventually, soil was moved from place-to-place, the course of rivers was rerouted, mountains were blasted; in short, MAN began the process of remolding the shape of the Earth's surface to suit his needs.

As MAN explored and made his home in new lands, nature succomed to his technology. Soon, human and industrial waste materials polluted streams, rivers, lakes, and oceans. Smoke and other chemical debris filled the air, atomic weapons were detonated both above and below the Earth's surface. Open dumps spotted the countryside, land developers rushed to new open spaces, and nuclear generating plants poured 'warmed' water into placid ponds and lakes.

In short, as MAN became more human, he began to have a more serious effect on his home - the Earth. Only recently (within the past five to ten years) have concerned individuals and governmental - as well as

private - groups taken it upon themselves to both protect and speak out for the interest of nature and her creations.

GROUPS

. National Audubon Society
. American Forestry Association
. National Wildlife Federation
. Defenders of Wildlife
. U.S. Environmental Protection Agency
. Friends of the Earth
. Wildlife Management Institute
. Environmental Action, Inc.
. Concern, Inc.
. Conservation Foundation
. Citizens for Clean Air
. Keep America Beautiful
. Sierra Club
. Wilderness Society
. Zero Population Growth
. World Wildlife Fund

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THE POISONED ENVIRONMENT

Within recent years, there has been an increased awareness and concern for the condition of the environment. Today, there is an ever-growing attitude of stewardship among adults and children alike; an internalized feeling of responsibility to protect both nature and MAN.

As man's numbers increased and he became concentrated in highly complex urban centers, the problem of environmental pollution arose and grew by leaps-and-bounds. Thus, today we find within our larger cities problems of air pollution (automobiles, buses, trucks, and air planes), noise pollution (traffic congestion, supersonic jets), and water pollution (chemical and industrial waste, raw sewage, litter).

In the more rural areas of the nation, there also exist the problem of environmental poisoning. Sewage has been dumped directly into bodies of water, the land has been stripped of its top soil - trees - and minerals, the land has been carved up for developmental and recreational purposes, open dumps dot the countryside, and factories/mills pour their chemical waste into the air.

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GARBAGE, MAN's INVENTION

In recent years, studies have been undertaken to determine the content of typical municipal refuse. The following data was compiled,

- paper and paper products 47%
- glass 12
- metal 10
- food waste. 10
- dirt. 6
- grass and leaves 5
- wood 3
- textiles 3
- plastic 3
- rubber 1

According to this data, seventy-one per cent (71%) of the garbage was bio-degradable; that is, capable of being readily decomposed by biological means (bacterial action), while twenty-nine per cent (29%) was not bio-degradable.

In 1970, the disposal of rubbish and garbage was the third highest municipal expense; following expenditure of funds for streets and schools.

AIR POLLUTION

The problem of air pollution has been with MAN for ages.

In 25 BC, Seneca, the Roman writer, described the 'heavy air' of Rome and the smell of chimneys.

During the Middle Ages, physicians blamed epidemics on bad air. In 1273, one of the first anti-smoke laws was written during the reign of England's King Edward I. A 1306 English law prohibited the burning of coal, in London, while Parliament was meeting.

Along with the Industrial Revolution came severe problems of air pollution. The 1769 invention of the steam engine, the growth of power plants, and increases in urban populations have resulted in more air pollution.

In 1952, more than four thousand (4,000) Londoners died as a result of a thick fog made up of sulphur dioxide and other pollutants which covered the city.

Recent medical studies indicate that air pollution may well aggravate illnesses such as heart trouble, bronchitis, asthma, and lung cancer.

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WATER POLLUTION

There is no known way by which MAN can survive without water. In truth, water is essential to the well-being of all forms of organic life. It has been recorded that MAN, at most, could live only a week without water!

Today, Americans use almost ten times as much water as they did at the turn of the 20th century. By the year 2000, it is estimated that Americans will use 900 billion gallons of water each day.

There are several types of man-made water pollutants which have resulted from both the growth and success of the American civilization.

1. Detergents which contain phosphates and other chemicals.
2. Industrial waste materials such as raw chemicals, liquid wastes, and unpurified water.
3. Human waste materials and garbage/litter.
4. Oil and other petroleum products/by-products.

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AIR AND WATER POLLUTION

Mother Nature has endowed the air with the ability to clear itself. As long as MAN does not release more pollutants into the air than can be properly disposed of, the air can absorb dirt, dust, and smoke. But, if MAN continues to release unburned fuel particles into the air (in the form of exhaust or smoke) then a serious pollution problem will exist.

In recent years, MAN has begun to face the problems of both air and water pollution. Efforts are now being made to clean up our bodies of water and to make the air safe. During our growth and development as a nation, our waterways literally became sewers. Various forms of water life ceased to exist, the water became poisoned with chemicals, humans became seriously ill as a result of consuming such water, and the smell was offensive to everyone concerned.

As in the case of air, swiftly running rivers and lakes have the capacity to cleanse themselves of reasonable amounts of plant, animal, and human - as well as industrial waste. Water can dissolve or break up waste materials that are emptied into it. But, if the amount of waste becomes too high, the waterway then becomes polluted.